MONTEST-HDSDI

Model PG-HD1X
PATTERN GENERATOR

USER MANUAL
V.2011PGHD1X100.00

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Chapter 1 Introduction

PG-HD1X is an advanced SDI pattern generator for checking the transmission of the coaxial cable laid in a HD-SDI system and designing to be a useful tool for the new generation of digital video/monitor products. It supports multi-format (HD/SD) and multi-pattern up to 8 patterns for you to test and calibrate a digital video/monitor. Further, it also can help you to improve the quality of digital video/monitor with side-by-side comparisons. Through the friendly interface and smart design, not only you can easy and quick to use the device but also you can reduce your test expenditure.

⚠Caution

To avoid and minimize the risk of damage to the device, please pay attention to the safety instructions even though the device had been tested for conformance to safety requirements and certified for international using.

- Follow all instructions marked on the device during using.
- Do not attempt to maintain the device by yourself, any faults, please contact your vendor.
- Provide proper ventilation and air circulation and do not use near water.
- It is better to keep it in a dry environment.
- Only using the power adapter and connection cables that are supported with the device.
- Please use the Pile Alkaline and the working time for the battery is about 2~4.5hours.
- It is better to charge the battery when the battery power indicator becomes low.
- Do not use liquid or aerosol cleaners to clean the device.
- Always unplug the power to the device before cleaning.

Package Contents

- 1 Dual Link HD-SDI Pattern Generator PG-HD1X
- 1 power adapter DC 9V
- 1 user manual
- 1 SDI 1.2M cable (BNC Male to Male)
- 1 9V Pile Alkaline

All packages have been checked carefully for their completeness and functionality before shipped. Please contact with your vendor if any items listed as above are missed or damaged.

Resolution

- Using to test and calibrate a TV/Monitor.
- Using to test and calibrate an SDI image input device.
- Using to test and maintain studio equipment as monitors, cabling and recording equipment.
- Using to test the arrangement of the circuit layout during the process of construction.

Features

- Intelligent functionality.
- Built-in HD-SDI Signal Generator
- Video Output: Dual SDI Output.
- Support total 7 timings. (up to 1080p@60Dual Link).
- Cost-down and single interface and easily to use.
- Portable design, inside 9.0Volts Alkaline battery.
- Provide total 8 video patterns, Include: GRID_16x12, COLOR_GRID, BLOCK 16x12, GRAY_8, COLORGRAY64, COLORBAR, WINDOW, RGB.
- Embedded audio tone is a 1KHz.

Specifications

Functions	Description
Serial Digital BNC Connectors	2
BNC Connector	75Ω Interlocking Socket
Select Switch	2
Unit Description	HD/SD-SDI Pattern Generator
Audio Support	YES
Supported Protocols	SMPTE 274M + 372M SMPTE 296M, ITU-R BT.601
SDI Standards	SD-SDI & HD-SDI
Max. Resolution	1080p@ 60(Dual Link)
Bit Rate	1.485G (2.97G Dual Link)
Cable Distance	5M~
Power Adapter (Min.)	DC 9V
Housing	Plastic
Weight	180g
Dimensions (LxWxH)	144.5*93*33 mm

Top Panel

1. **Power/Battery Status:**

"●"" ⏻"LED light → Power on.

"◑" "▰"LED Flash → The battery is in low voltage status.

☞ Using the 9V battery singly without a 9V transformer, the power LED status will flash when the voltage of battery go down to about Low Voltage. (That is indicating the power of batter will use up.)

2. **Power On/Off:** Push the **Power SW** up to power on your device (The Power LED is light). Push the **Power SW** down to power off your device (The Power LED is dark)

3. Resolution Switch: Support you at least 7 kinds of resolution for choice. Please refer to "**HD-SDI A Output /HD-SDI B Output**"

4. **Pattern Switch Button:** Switch the **Pattern Mode** that you want to test. Please refer to "**Appendix A: Pattern Chart.**"

☞ After you press the Pattern Switch Button, the sequence of the pattern mode is from upper left to upper right then from bottom left to bottom right.

Side Panels

The PG-HD1X supports SDI interface. The SDI standard transfers signals are uncompressed and are self-synchronizing between the source (transmitter) and destination (receiver). Most errors caused by noise or interference can be detected, and the lost data recovered by means of a specialized code called the Hamming code. A signal in SDI can contain up to four independent digital audio signals along with the video signal.

HD-SDI A Output /HD-SDI B Output

Use for SDI 1.2M cable (BNC Male to Male).

List of SDI Video Formats:

Format	Standard	Clock	Notes
720 x 576 i 50	ITU-R BT.601	13.5MHz	625-line “PAL”
720 x 486 i 59.94	ITU-R BT.601	13.5MHz	525-line “NTSC”
1280 x 720 p 60	SMPTE 296M	74.25MHz	
1920 x 1080 i 60	SMPTE 274M	74.25MHz	
1920 x 1080 p 25	SMPTE 274M	74.25MHz	
1920 x 1080 p 30	SMPTE 274M	74.25MHz	
1920 x 1080 p 60	SMPTE 274M + 372M	74.25MHz	Dual Link

Power Jack

Use for the DC 9V power adapter. The **Power Jack** is on the side of the device.

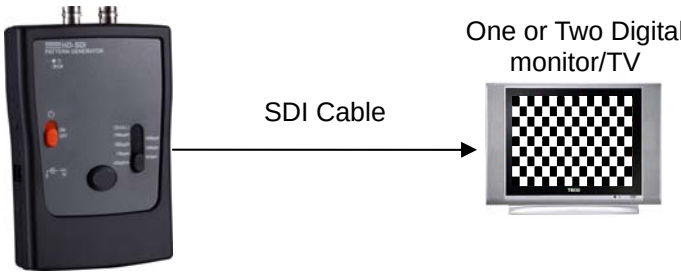
Power Jack

Chapter 2 Connection

⚠Caution

Please power off the digital monitor and the device before you begin the connection.

Connect PG to Monitor



- Connect the attached adapter cable from your device to the power source (outlet).
- Switch off the monitor.
- Connect the BNC extension cord from your device to the Digital monitor/TV.
- Switch on the power of the Digital monitor/TV.
- Push the **Power SW** of your device to power on/off your device.

⚠Caution

Please use the Pile Alkaline to the device.

Chapter 3 Troubleshooting

1. If there is no reaction when using the device, please ensure the following matters:

   a. If it is unable to power on→there is a possibility of fault battery or inferior battery. Please connect it with the transformer.
   b. If it is able to power on but there is no reaction→
      - Lower the resolution or change the resolution and vertical frequency.
      - Please ensure the compatibility the mode of the monitor.

2. What is the Pattern Generator's function?

   a. Use to test and maintain studio equipment, such as monitor, cabling, and recording equipment.
   b. For a TV engineer or technician wants to test and calibrate a DTV monitor during repair.
   c. A home-theater user wants to get the best results out of the DTV equipment.
   d. A studio installer wants to test cables and equipment so that can get the best effect.
   e. For the DTV sets seller to show side-by-side comparisons of quality.
   f. For teacher to train their students about the latest DTV quality test technologies.
   g. To test a new DTV set whether compatibility with the ATSC standards.

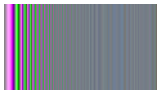
3. When should I have to charge the battery?

   We suggest you to charge the battery when the battery power indicator has become low; it is not appropriate to charge the battery when the battery is consumed thoroughly.

4. What is SDI?

   Serial Digital Interface (SDI) is a standard for digital video transmission over coaxial cable. The most common data speed is 270 megabits per second (Mbps). However, speeds of up to 540 Mbps are theoretically possible. Standard 75-ohm cable is used. This is the same type of coaxial cable used in most home television (TV) installations.

Appendix A: Pattern Chart

1.	2. 	3.	4.
5.	6.	7.	8.

WARRANTY INFORMATION

The warranty period on this product (parts and labor) is one (1) year from the date of purchase. Please contact Video Products Incorporated at **(800) 626-7801** or **(330) 562-2622** for information regarding repairs and/or returns. A return authorization number is required for all repairs/returns.

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